

## **Resin-Modified Glass-Ionomer Materials Still a Good Tool for the Clinician's Toolbox** (3/07)

Burrow MF, Tyas MJ. Clinical evaluation of three adhesive systems for the restoration of non-carious cervical lesions. *Oper Dent* 2007;32:11-15.

The restoration of non-carious cervical lesions remains a vexing problem for the clinician. The purpose of this *in vivo* study was to evaluate the effectiveness of a self-etch two-step adhesive (Clearfil SE Bond, Kuraray Medical Inc., Tokyo, Japan), an etch-and-rinse two-step adhesive (Single Bond, 3M/ESPE, St. Paul, MN), and a resin-modified glass-ionomer (RMGI) restorative material (Fuji II LC, GC International Corp., Tokyo, Japan) for the restoration of non-carious cervical lesions. Ninety-two restorations were placed in 20 patients with treatment choices determined randomly. Where situations would allow, each material was used to restore three lesions per patient. All materials were used according to their manufacturers' recommendations. A microfill resin composite (Filtek A110, 3M/ESPE) was used as the restorative material for the adhesive-based situations. Patients were recalled at 6 months and at one, two, and three years. At those times, the restorations were evaluated for retention, color match, and evidence of marginal staining. At 3 years, 55 of the original 92 restorations were available for evaluation. The results indicated that the RMGI material exhibited the best retention with a cumulative retention rate of 97%; the self-etch, two-step adhesive had the second-highest rate (90%). The etch-and-rinse two-step adhesive displayed the poorest retention, with only 77% of the restorations present at three years. Although there were no differences among the treatments with regard to color match and marginal discoloration, the etch-and-rinse two-step adhesive had a significantly higher failure rate ( $p=0.012$ ) than the other two materials. **The authors concluded that the RMGI material is the best material for the restoration of non-carious cervical lesions that are not esthetically demanding. If esthetics are a consideration, a self-etch two-step adhesive and a resin composite are better indicated.**

**DECS Comment: The best evaluation of restorative and adhesive systems is a clinical trial, and the performance of any material in a multi-year clinical trial should be viewed as extremely useful information. This study reinforced the findings of other reports and systematic reviews in that, as a whole, the self-etch two-step adhesives appear to perform better than the etch-and-rinse two-step adhesives. The evaluation also confirmed the findings of other studies that RMGI restorative materials are quite useful for restoring non-carious cervical lesions. Since the application of RMGI materials is often more straightforward than the multi-step placement of an adhesive system and a resin composite, RMGI materials should be given serious consideration when placing cervical lesion restorations where esthetics is not critical.**

### **References**

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